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DEPARTMENT OF AGRICULTURE
Rural Electrification Administration
Technical Standards Committees

Reserve

LIST OF MATERIALS ACCEPTABLE FOR
USE ON REA-FINANCED SYSTEMS

1. The succeeding sheets constitute the authoritative list of materials considered acceptable by the REA for use on REA-financed systems, as of December 2, 1944.
2. The acceptance of a new item or the deletion of an existing item is a function of the Technical Standards Committees which were established June 27, 1941. The present list includes many items which were considered acceptable prior to the establishment of these committees. A copy of the committees' procedure will be forwarded upon request.
3. Anyone desiring to have a new item placed on the list, or believing an existing item should be removed from the list, is invited to submit the matter to the committees. Detailed supporting data must accompany such requests or suggestions.
4. Any communication calling attention to an error or omission in the list, such as a wrong catalog number, an obsolete item, etc., will be appreciated. All communications should be addressed to Technical Standards Committee "A", Rural Electrification Administration, Boatmen's Bank Building, St. Louis 2, Missouri.
5. This list supersedes all preceding issues including revisions.

APR 25 1945

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anchors-----	z	Fuse links-----	ch
Bolts, carriage-----	i	Gaps, lightning protection-----	cl
" , double arming-----	n	Guy attachments-----	v
" , double upset, insulated-----	q	" guards-----	at
" , eye-----	o	" hooks-----	bj
" , machine-----	c	" plates-----	bk
" , single upset, insulated-----	bs	insulators, guy-----	w
" , thimbleye, angle-----	ba	" , pin-----	a
" , " , straight-----	ao	" , spool-----	cm
Braces, crossarm-----	h	" , suspension-----	k
" , sidearm, diagonal-----	ac	lightning arresters-----	ae
" , " , vertical-----	bb	" , thimbleye-----	aa
Brackets, cutout and arrester-----	ah	" , crossarm, steel-----	ab
" , pole, primary-----	bc	" , pole-top-----	f
Circuit Breakers, automatic oil-----	be	" , transformer-----	b
Clamps, anchor rod, bonding-----	ck	" , service insulated-----	ad
" , deadend-----	cl	Packs, service insulated-----	cf
" , ground rod-----	aj	Rods, anchor-----	x
" , guy-----	u	" , ground-----	ai
" , hot line-----	ap	Screws, lag-----	j
" , loop deadend (For A.C.S.R.)-----	bn	Shackles, anchor-----	bo
" , suspension (For A.C.S.R.)-----	m	Sleeve, compression deadend-----	cp
Clevises, secondary deadend, insulated-----	r	" , offset splicing-----	cq
" , " , swinging, insulated-----	s	" , splicing, single oval tube-----	cx
" , service deadend, insulated-----	bh	" , splicing, compression type-----	cy
" , " , swinging, insulated-----	as	" , splicing, double tube-----	cz
" , thimble, side opening (For Cu. & Cwld. Cu.)-----	ci	Staples, ground wire-----	al
Connectors, solderless-----	p	Switches, pole-top-----	cg
Cutouts, fuse, single-shot, enclosed, distrib.-----	af-1	Thimbles, deadend (For A.C.S.R.)-----	bl
" , " , " , open, distribution-----	af-2	" , guy-----	bm
" , " , " , substation-----	af-3	Transformers-----	an
" , " , three-shot, distribution-----	ag-1	Washers-----	d
" , " , " , substation-----	ag-2	Wire holders-----	ar
" , " , secondary-----	co		

a - Insulator, pin

KV Class:	Delta	Star	Delta				
	5	7.2/12.5	15	22	33	44	66
<u>Specifications:</u>							
Flashover, KV Dry	45	65	70	95	125	140	165
" KV Wet	23	35	40	65	85	100	130
Leakage, Inches	4	7	7 $\frac{1}{2}$	12	20	26	31
Strength, Pounds	2500	2500	2500	2500	3000	3000	3000
Diam. Pin Hole, Inches	1	1	1	1-3/8	1-3/8	1-3/8	1-3/8
<u>Manufacturer:</u>							
Ill. Elec. Porc.							
(1-piece)	253	261	266	---	---	---	---
(multi-part)	---	---	---	2027	2045	2055	3066
(high)	---	135	175	---	---	---	---
Jeffery-Dewitt	8	13	15	30	45	58	66-R
	---	---	---	---	---	---	---
	---	10077	---	---	---	---	---
Pinco	401	63	1044	1123	1125	428A	435
	---	---	---	69	75	---	---
	---	---	---	---	---	---	---
Lepp	6192	6184	7385	---	---	---	---
	---	---	---	6179	5440	5940	6173
	---	---	---	---	---	---	---
Locke	---	9995	10270	1227	1244	---	---
#66	---	---	---	1027	1044	1055	1066
	---	77	88	---	---	---	---

	(a)								
(KV Class)	(5)	(7.2/12.5)	(15)	(22)	(33)	(44)	(66)		
Ohio Brass (1 piece) (multi-part) (high)	12847	12848	12849	34546 33546	34623 33623	---	33855	33552	---
Porc. Prod.	6187	6195	6198R	6034R 6134R	6033R 6133R	---	6137R	6138R	---
Thomas	1009	1177	1216	1917 2117	1924 2124	---	2126	3060	---
Westinghouse	146	---	1012	881875	816625 2133	---	2144	3255	---
Victor	8	5	11	127 227	145 245	---	255	366	---
Pyrex	63	171	171	271	453	---	553	---	---

Note: Radio noise-proof insulators of the foregoing will be accepted on the same basis as their standard porcelain insulators.

b - Pin, pole-top, steel

Thread, (inches diam.)
Length, over-all (inches)
Spacing (inches)

1	1	1-3/8
15*	18	24
5	8	8

Manufacturer:

Catalog Number:

Hubbard

Formed pin	3162	3170	3049
1 1/4" pipe pin	-	-	-
1 1/4" pipe fixture	-	-	-
1 1/2" pipe pin	-	-	3073
1 1/2" pipe offset pin	-	-	-
1 1/2" pipe fixture	-	-	-

Joslyn

Formed pin	583	2008	2011
1 1/4" pipe pin	-	-	-
1 1/8" pipe pin	-	-	1281

Line Material

Formed pin	SA28X8	12111	-
1 1/4" pipe pin	-	-	-
1 1/2" pipe pin	-	-	12151

Kortick

Formed pin	-	-	-
1 1/4" pipe pin	-	-	-
1 1/2" pipe pin	-	-	8122

Electrical Mfg. Co.
Formed pin

501	504	505A
-----	-----	------

* REA Standard

(b)

Length

15*

18

24

Manufacturer:

Catalog Number:

Locke

Formed pin

2026

2034

2049

1 1/2" pipe pin

-

-

2073

Oliver

Formed pin

3717

-

3735

1 1/2" pipe pin

-

-

3825

Util. Service

Formed pin

36531

788

-

1 1/2" pipe pin

-

-

776

Seyler

Same numbers as Locke

* REA Standard

c - Bolt, Machine

Length, inches	8	10	12	14	16	18	20	18	20	
Diam., inches	5/8"								3/4"	
Manufacturer:	Catalog Number:									
Hubbard	9808	9810	9812	9814	9816	9818	9820	9918	9920	
Joslyn	8808	8810	8812	8814	8816	8818	8820	8918	8920	
Line Material	9325	9326	9327	9328	9329	9330	9331	9346	9347	
Locke	8808	8810	8812	8814	8816	8818	8820	8918	8920	
Oliver	6108	6110	6112	6114	6116	6118	6120	6218	6220	
Util. Service	5181	5182	5183	5184	5185	5186	5187	5197	5198	
O'Leary	Order by size and description									
Mastergrip	M9808	M9810	M9812	M9814	M9816	M9818	M9820	M9918	M9920	
Inter. Derrick & Equipment Co.	14530	14531	14532	14533	14534	14535	14536	14551	14552	

3/4"

(c)

Length, inches 8 10 12 14 16 18 20 18 20

Diam., inches

5/8"

3/4"

Manufacturer:

Catalog Number:

Standco Order by size and description

Lewis	6108	6110	6112	6114	6116	6118	6120	-	-
Electrical Mfg. Co.	M508	M510	M512	M514	M516	M518	M520	M618	M620
Seyler	8808	8810	8812	8814	8816	8818	8820	8918	8920
Kortick	1208	1210	1212	1214	1216	1218	1220	1318	1320

d - Washer

Manufacturer:

Catalog Number:

2 $\frac{1}{4}$ "x2 $\frac{1}{4}$ "x3/16", 13/16" hole

4"x4"x $\frac{1}{2}$ ", 13/16" hole

Hubbard	7814	7819 $\frac{1}{2}$
Joslyn	1076	1473
Line Material	9451	9457 Sp.
Locke	6814	6819 $\frac{1}{2}$
Oliver	6943	6938
Utilities Service	5485	5490A
O'Leary	Order by size and description	
Mastergrip	M7813	
Inter. Derrick & Equipment Co.	14217	
Standco	Order by size and description	
Lewis	6943	
Electrical Mfg. Co.	853	859
Seyler	Same numbers as Locke	
Kortick	1553	1559 $\frac{1}{2}$

f - Pin, crossarm, steel

Thread (inches diam.)	1	1	1	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8
Length, above base (inches)	4-3/4	4-3/4	6	6	7	8	9	10
Shank (inches diam.)	5/8	3/4	3/4	3/4	3/4	3/4	3/4	3/4

Manufacturer:

Catalog Number:

Hubbard

Long Shank	981	990A	5312	5324	5326	5328	5330	5332
Short Shank	986	993A	5311	5323	5325	5327	5329	5331

Joslyn

Long Shank	203A	-	-	607 1/8	607A	608	609	610
Short Shank	221A	-	-	629 1/8	630	631	632	633

Line Material

Long Shank	223848	-	-	235459	31437	31447	31457	31467
Short Shank	-	-	-	235419	31432	31442	31452	31462

Locke

Long Shank	881	890A	4312	4324	4326	4328	4330	4332
Short Shank	886	893A	4311	4323	4325	4327	4329	4331

Oliver

Long Shank	3506	-	3466	3066	3417	3418	3419	3420
Short Shank	3555	-	3456	3166	3467	3468	3469	3470

Util. Service

Long Shank	558	562	3128	3150	3137	3138	3139	3140
Short Shank	579	581	3131	3147	3148	3143	3144	3145

(f)

Thread (inches diam.)	Length, above base (inches)	Shank (inches diam.)
1	3/4	5/8
1	3/4	3/4
1	6	3/4
1	3/8	3/4
1	3/8	3/4
1	3/8	3/4
1	3/8	3/4
1	3/8	3/4

Manufacturer:

Catalog Number:

Electrical Mfg. Co.									
Long Shank	911	---	917	940	941	946	953	954	
Short Shank	920	---	922	929	946	947	959	960	
Seyler									
Long Shank	881	890A	4312	4324	4326	4328	4330	4332	
Short Shank	886	893A	4311	4323	4325	4327	4329	4331	
Kortick									
Long Shank	7103	---	---	---	---	---	---	---	
Short Shank	7122	---	---	---	---	---	---	---	

h - Brace, crossarm, diagonal

Size (inches)
Style
Centers (inches)
Length (inches)

1 1/4 x 1/4*
Flat
26
28

1 1/2 angle x 3/16
Bow
42
60
--

Manufacturer:

Catalog Number:

Hubbard	8128	7940	7942
Joslyn	7128	1506	1508
Line Material	9219	9251	9256
Locke	7128	6940	6953
Oliver	5228	5240	5244
Util. Service	5243	5214	5217
O'Leary	Order by size and description		
Mastergrip	M8128	M7940	-
Inter. Derrick & Equipment Co.	14024	14030	-
Standco	Order by size and description		
Electrical Mfg. Co.	828	756	759
Seyler	Same numbers as Locke		
Kortick	1428	1812	1815

* REA Standard

1 - Bolt, carriage

Length (inches)

3

3 $\frac{1}{8}$

4

4 $\frac{1}{8}$

5

5 $\frac{1}{8}$

6

Manufacturer:

Catalog Number:

Hubbard

3/8"
1/2"

9633
9643

9633 $\frac{1}{8}$
9643 $\frac{1}{8}$

9634
9644

9634 $\frac{1}{8}$
9644 $\frac{1}{8}$

9635
9645

9635 $\frac{1}{8}$
9645 $\frac{1}{8}$

9636
9646

Joslyn

3/8"
1/2"

8633
-

8633 $\frac{1}{8}$
-

8634
8644

8634 $\frac{1}{8}$
8644 $\frac{1}{8}$

8635
8645

8635 $\frac{1}{8}$
8645 $\frac{1}{8}$

8636
8646

Line Material

3/8"
1/2"

9350
9357

9351
9358

9352
9360

9353
9361

9354
9362

9355
9363

9356
9364

Oliver

3/8"
1/2"

5303
5403

5303 $\frac{1}{8}$
5403 $\frac{1}{8}$

5304
5404

5304 $\frac{1}{8}$
5404 $\frac{1}{8}$

5305
5405

5305 $\frac{1}{8}$
5405 $\frac{1}{8}$

5306
5406

Electrical Mfg. Co.

3/8"
1/2"

C303
-

C303 $\frac{1}{8}$
-

C304
C404

C304 $\frac{1}{8}$
C404 $\frac{1}{8}$

C305
C405

C305 $\frac{1}{8}$
C405 $\frac{1}{8}$

C306
C406

Util. Service

3/8"
1/2"

5055
5062

5056
5063

5057
5064

5058
5065

5059
5066

5060
5067

5061
5068

Mastergrip

3/8"
1/2"

M9633
M9643

M9633 $\frac{1}{8}$
M9643 $\frac{1}{8}$

M9634
M9644

M9634 $\frac{1}{8}$
M9644 $\frac{1}{8}$

M9635
M9645

M9635 $\frac{1}{8}$
M9645 $\frac{1}{8}$

M9636
M9646

(1)

Length (inches)

3

3 $\frac{1}{2}$

4

4 $\frac{1}{2}$

5

5 $\frac{1}{2}$

6

Manufacturer:

Inter. Derrick
& Equipment Co.

Catalog Number:

3/8"
1/2"

14594
14597-B

14592
14597-C

14593
14597-D

14595
14597-E

14596
14597-F

14597
14597-G

14597-A
14598

Kortick

3/8"
1/2"

1043
1133

1043 $\frac{1}{2}$
1133 $\frac{1}{2}$

1044
1134

1044 $\frac{1}{2}$
1134 $\frac{1}{2}$

1045
1135

1045 $\frac{1}{2}$
1135 $\frac{1}{2}$

1046
1136

Standco

Order by size and description

Seyler

Same numbers as Joslyn

Locke

Same numbers as Joslyn

Lewis

3/8"
1/2"

5303
5403

5303 $\frac{1}{2}$
5403 $\frac{1}{2}$

5304
5404

5304 $\frac{1}{2}$
5404 $\frac{1}{2}$

5305
5405

5305 $\frac{1}{2}$
5405 $\frac{1}{2}$

5306
5406

j - Screw, lag

Length (inches)

2 1/2

3

3 1/2

4

4 1/2

5

6

Manufacturer:

Catalog Number:

Hubbard

3/8"

1/2"

5/8"

Joslyn

3/8"

1/2"

5/8"

Line Material

3/8"

1/2"

5/8"

Locke

Same as Joslyn

Oliver

3/8"

1/2"

5/8"

Util. Service

3/8"

1/2"

5/8"

Kortick

3/8"

1/2"

5/8"

1032 1/2
1122

1033
1123

1033 1/2
1123 1/2

1034
1124
1234

1034 1/2
1124 1/2
1234 1/2

1035
1125
1235

1036
1126
1236

5361
5368

5362
5368A

5363
5369

5364
5370
5377

5365
5371
5378

5366
5372
5379

5367
5374
5381

5602 1/2
5702 1/2

5603
5703

5603 1/2
5703 1/2

5604
5704
5804

5604 1/2
5704 1/2
5804 1/2

5605
5705
5805

5606
5706
5806

9541

9535
9542

9536
9543

9537
9544
9549

9538
9545
9549 1/2

9539
9546
9550

9540
9547
9551

8742 1/2
8752 1/2

8743
8753

8743 1/2
8753 1/2

8744
8754
8764

8744 1/2
8754 1/2
8764 1/2

8745
8755
8765

8746
8756
8766

9742 1/2
9752 1/2

9743
9753

9743 1/2
9753 1/2

9744
9754
9764

9744 1/2
9754 1/2
9764 1/2

9745
9755
9765

9746
9756
9766

(j)

Length (inches)

 $2\frac{1}{2}$

3

 $3\frac{1}{2}$

4

 $4\frac{1}{2}$

5

6

Manufacturer:Catalog Number:

Mastergrip

3/8"
1/2"
5/8"

M9742 $\frac{1}{2}$
M9752 $\frac{1}{2}$

M49743
M9753

M9743 $\frac{1}{2}$
M9753 $\frac{1}{2}$

M9744
M9754
M9764

M9744 $\frac{1}{2}$
M9754 $\frac{1}{2}$
M9764 $\frac{1}{2}$

M9745
M9755
M9765

M9746
M9756
M9766

Inter. Derrick
& Equip. Co.

3/8"
1/2"
5/8"

14421-B
14423-E

14421-C
14423

14421

14423-A
14424
14426-E

14423-B
14425
14426-F

14423-C
14426
14427

14423-D
14426-B
14427-B

Standco

3/8"
1/2"
5/8"

Order by size and description

" " " " " "

Lewis

3/8"
1/2"

5602 $\frac{1}{2}$
5702 $\frac{1}{2}$

5603
5703

5603 $\frac{1}{2}$
5703 $\frac{1}{2}$

5604
5704

5604 $\frac{1}{2}$
5704 $\frac{1}{2}$

5605
5705

5606
5706

Electrical Mfg. Co.

3/8"
1/2"
5/8"

L302 $\frac{1}{2}$
L402 $\frac{1}{2}$

L303
L403

L303 $\frac{1}{2}$
L403 $\frac{1}{2}$

L304
L404
L504

L304 $\frac{1}{2}$
L404 $\frac{1}{2}$
L504 $\frac{1}{2}$

L305
L405
L505

L306
L406
L506

Seyler

Same numbers as Joslyn

KV Class:

k - Insulator, suspension
All items listed shall have 5/8" cotter bolts

5

7.2/12.5

15

22

33

44

66

Specification:

Flashover, KV Dry	45	50	65	80	80	80	80
" " Wet	23	30	40	50	50	50	50
Leakage, Inches	4	5 1/4	7	11 1/4	11 1/4	11 1/4	11 1/4
Strength, Pounds	4000	10000	10000	15000	15000	15000	15000
Diam. Inches	6	6	7 1/2	10	10	10	10
Units per string	1	2	2	2	3	4	5
Spacing, Inches	--	5	--	5-3/4	5-3/4	5-3/4	5-3/4

Manufacturer:

Catalog Number:

Ill. Elec. Porc.	454	1261	1270	1271	1271	1271	1271
		1259	---	---	---	---	---
Jeffery-Dewitt	2543	2551-R	---	2654	2654	2654	2654
		2680	---	---	---	---	---
Finco	1510	2410	600	1070	1070	1070	1070
		1510	---	---	---	---	---
Lapp	6205	6605	9507	8100	8100	8100	8100
Locke	16583	16583	5875	5800	5800	5800	5800
		18116	---	580	580	580	580
Ohio Brass	36567	32433	32435	32439	32439	32439	32439
Porc. Prod.	66107	66107	6606	6614	6614	6614	6614
Thomas	1277	1204	1198	21238	21238	21238	21238
		1277	---	---	---	---	---
Westinghouse	918371	918371	570262	570265	570265	570265	570265
Victor	806	804	801	800	800	800	800
		806	---	---	---	---	---
Pyrex	65221	65221	---	65224	65224	65224	65224

12244-k

THE
FEDERAL
BUREAU OF
INVESTIGATION
WASHINGTON, D. C.

MEMORANDUM FOR THE DIRECTOR

SUBJECT: [Illegible]

1. [Illegible]

2. [Illegible]

3. [Illegible]

4. [Illegible]

5. [Illegible]

1 - 11/16", deadend
All items listed shall have 5/8" cotter bolts

Stranded Copper-type Conductors:

Gauge	30% E. H. S.	#2-3 str. cu.	4A	6A	8A	8C	9 1/2 D	40% H. S.
Diam. (inches)	0.349	0.320	0.290	0.230	0.199	0.179	0.174	3#12
								0.174

Manufacturer:

Catalog Number:

Ohio Brass	80500	80500	80500	80500	80500	80500	80500	80500
Joslyn (Pinco)	L-4038	L-4038	L-4038	L-4038	L-4038	L-4038	L-4038	L-4038
	2177U*	2177U*	2177U*	2177U*	2177U*	2177U*	2177U*	2177U*
Locke	20294	20294	20294	20294	20294	20294	20294	20294
Thomas	2102	2102	2102	2102	2102	2102	2102	2102
	2202	2202	2202	2202	2202	2202	2202	2202
Line Material (Victor)	V2102	V2102	V2090	V2102	V2090	V2090	V2090	V2090
			V2102	V2102	V2102	V2102	V2102	V2102
Westinghouse	968751	968751	968751	968751	968751	968751	968751	968751
Porc. Prod.	7510	7510	2110	2110	2110	2110	2110	2110
Jeffery-Dewitt	5301	5301	5301	5301	5301	5301	5301	5301
Brewer-Titchener	2102	2102	2102	2102	2102	2102	2102	2102
Lapp	2102	2102	2102	2102	2102	2102	2102	2102
	2100U	2100U	2100U	2100U	2100U	2100U	2100U	2100U
Seyler	Same numbers as Locke							
Ill. Elec. Porc.	2102	2102	2102	2102	2102	2102	2102	2102

* War Standard Item, acceptable for the duration and ninety days thereafter.

(1)

All items listed shall have 5/8" cotter bolts

Aluminum conductor (ACSR):

Gauge Diam. plus tape (inches)	2/0-6/1 0.547	1/0-6/1 0.498	2-7/1 0.425	2-6/1 0.416	4-7/1 0.357	4-6/1 0.350	6-6/1 0.258
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Manufacturer:Catalog Number:

Alum. Co. of Amer.	403	403	-	-	-	-	-
Ohio Brass	78500	78500	81500	81500	81500	81500	81500
Joslyn (Pinco)	L-1921	L-4050 L-4536*	L-4050 L-4536*	L-4050 L-4536*	L-4050 L-4536*	L-4050 L-4536*	L-4050 L-4536*
Locke	20087	20293 20295*	20293 20295*	20293 20295*	20293 20295*	20293 20295*	20293 20295*
Thomas	7511	7511	7511	7511	7511	7511	7511
Victor (Line Material)	V-4060	V-4050	V-4050	V-4050	V-4050	V-4050	V-4050
Westinghouse	BTC-7511	1028291 BTC-2104*	1028291 BTC-2104*	1028291 BTC-2104*	1028291 BTC-2104*	1028291 BTC-2104*	1028291 BTC-2104*
Porc. Prod.	7511	7511	7509	7509	7509	7509	7509
Jeffery-Dewitt	5311	5026	5026	5026	5026	5026	5026
Lapp	7511	7511	7511	7511	7511	7511	7511
Seyler	Same numbers as Locke						

* War Standard Item, acceptable for duration and ninety days thereafter.

12244-1-2

All items listed shall have 5/8" cotter bolts

<u>Crapo</u>	4	6	8						
<u>Ruralductor</u>	4	6	8						
<u>Amersteel</u>	4	6	8						
Diameter	0.297	0.252	0.207						
<u>Amerductor SCP and SCG</u>									
Gauge	4	6	8						
Diameter (inches)	0.310	0.248	0.196	0.216	0.192	0.220	0.175		
<u>Manufacturer:</u>			<u>Catalog Number:</u>						
Ohio Brass	80500	80500	80500	80500	80500	80500	80500	80500	
Westinghouse	968751	968751	968751	968751	968751	968751	968751	968751	
Joslyn (Pinco)	4038	4038	4038	4038	4038	4038	4038	-----	
Locke	20294	20294	20294	20294	20294	20294	20294	20294	
Porcelain Products	-----	2110	2110	2110	2110	2110	2110	2100	
Line Material (Victor)	V2102	V2102	V2102	V2102	V2102	V2102	V2102	V2102	
Thomas	2102	2102	2102	2102	2102	2102	2102	2102	
	2202	2202	2202	2202	2202	2202	2202	2202	
Jeffery-Dewitt	5301	5301	5301	5301	5301	5301	5301	5301	
Lapp	2102	2102	2102	2102	2102	2102	2102	2102	
	2100U	2100U	2100U	2100U	2100U	2100U	2100U	2100U	

m - Clamps, suspension
All items listed shall have 5/8" cotter bolts
(For use on ACSR only, as
shown on drawing M41-10)

Aluminum conductor (ACSR):

Gauge	2/0-6/1	1/0-6/1	2-7/1	2-6/1	4-7/1	4-6/1	6-6/1
Diam. - rods (inches)	0.835	0.744	0.595	0.586	0.555	0.548	0.434
<u>Manufacturer:</u>			<u>Catalog Number:</u>				
Alum. Co. of America	---	---	---	---	---	---	---
Ohio Brass	---	---	82860	82860	82860	82860	82860
Pinco (Joslyn)	---	---	4095 4020	4095 4020	4095 4020	4095 4020	4095 4020
Locke	---	---	20285	20285	20285	20285	20285
Thomas (Hubbard)	---	---	2300	2300	2300	2300	2300
Victor (Line Material)	---	---	V-2270-M	V-2270-M	V-2270-M	V-2270-M	V-2270-M
Westinghouse	---	---	968753	968753	968753	968753	968753
Lapp	---	---	20920	20920	20920	20920	20920
Porc. Prod.	---	---	7521	7521	7521	7521	7521
Jeffery-Dewitt	---	---	4661	4661	4661	4661	4661
Seyler	Same numbers as Locke						
Ill. Elec. Porc.	---	---	2300	2300	2300	2300	2300

(m)
Clamps, suspension, 2-bolt

Amerductor, Grapo and Ruralductor
#4 to #8

Amerductor
#4 to #12,

Manufacturer:
Copper & CWC
#6 to #1/0

#2, #4 ACSR #1/0

Ohio Brass	83044	83064	83084
Joslyn (Pinco)	14201	14303	14307
Locke	46240	46241	46243
Thomas	6240	6241	6243
Line Material (Victor)	6240	6241	6243
Westinghouse	BTC6240U	BTC6241U	BTC6243U
Lepp	9300-V	9301-V	9303-V
Porc. Products	6240	6241	6243
Jeffery Dewitt	4201	4203	4207
Util. Service	Same as Westinghouse		

n - Bolt, double arming

Length (inches)

12 14 16 18 20

Manufacturer:

Catalog Number:

Hubbard

5/8"
3/4"

9862	9864	9866	9868	9870
9882	9884	9886	9888	9890

Joslyn

5/8"
3/4"

8862	8864	8866	8868	8870
8882	8884	8886	8888	8890

Lewis

5/8"

6412	6414	6416	6418	6420
------	------	------	------	------

Line Material

5/8"
3/4"

9380	9381	9382	9383	9384
9390	9391	9392	9393	9394

Locke

Same numbers as Joslyn

Seyler

Same numbers as Joslyn

Oliver

5/8"
3/4"

6412	6414	6416	6418	6420
6512	6514	6516	6518	6520

O'Leary

Order by size and description

(n)

Length (inches)

12

14

16

18

20

Manufacturer:

Catalog Number:

Util. Serv.

5/8"
3/4"

5076
5083

5077
5084

5078
5085

5079
5086

5080
5087

Standco

Order by size and description

Kortick

5/8"
3/4"

1362
1382

1364
1384

1366
1386

1368
1388

1370
1390

International Berrick
& Equipment Company

5/8"
3/4"

14360
14370

14361
14371

14362
14372

14363
14373

14364
14374

Mastergrip Util.

5/8"
3/4"

M9862
M9882

M9864
M9884

M9866
M9886

M9868
M9888

M9870
M9890

Electrical Mfg. Co.

5/8"
3/4"

D512
D612

D514
D614

D516
D616

D518
D618

D520
D620

o Bolt, eye

Length (inches)

8

10

12

14

16

18

20

Manufacturer:

Catalog Number:

Hubbard

5/8" Mach.

39958

39960

39962

39964

39966

39968

39970

Dbl. Arm.

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29786

29788

29790

3/4" Mach.

39978

39980

39982

39984

39986

39988

39990

Dbl. Arm.

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29796

29798

29800

Joslyn

5/8" Mach.

9408

9410

9412

9414

9416

9418

9420

Dbl. Arm.

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9614

9616

9618

--

3/4" Mach.

9508

9510

9512

9514

9516

9518

--

Dbl. Arm.

--

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--

9634

9636

9638

--

Line Material

5/8" Mach.

9431-N

9432-N

9433-N

9434-N

9435-N

9436-N

9437-N

Dbl. Arm.

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9405-N

9406-N

9407-N

3/4" Mach.

9439-N

9440-N

9441-N

9442-N

9443-N

9444-N

9445-N

Dbl. Arm.

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H9796-N

H9798-N

9415-N

Locke

5/8" Mach.

29958

29960

29962

29964

--

--

--

Dbl. Arm.

--

--

--

--

19786

19788

19790

3/4" Mach.

29978

29980

29982

29984

--

--

--

Dbl. Arm.

--

--

--

--

19796

19798

19800

Length (inches)

8

10

(o) 12

14

16

18

20

Manufacturer:

Catalog Number:

Oliver

5/8" Mach.	9608	9610	9612	9614	9616	9618	9620
Db1. Arm.	-	-	-	-	7916	7918	7920
3/4" Mach.	9708	9710	9712	9714	9716	9718	9720
Db1. Arm.	-	-	-	-	8916	8918	8920

Kortick

5/8" Mach.	2680	2681	2682	2684	2685	2686	2687
Db1. Arm.	-	-	-	2602	2603	2604	-
3/4" Mach.	2703	2704	2705	2706	2707	2708	-
Db1. Arm.	-	-	-	2615	2616	2617	-

Util. Service

5/8" Mach.	5099	5100	5101	5102	5103	5104	5105
Db1. Arm.	-	-	-	5115	5116	5117	5118
3/4" Mach.	5109	5110	5110A	5111	5112	5113	5114
Db1. Arm.	-	-	-	5121	5122	5123	5124

(o)

Length (inches)	8	10	12	14	16	18	20
Standco	Order by size and description						
International D & E	14291	14292	14293	14294	14295	14296	14297
5/8" Mach.	---	---	---	---	14314	14315	14316
Dbl. Arm.	14301	14302	14303	14304	14305	14306	14307
3/4" Mach.	---	---	---	---	14317	14318	14319
Dbl. Arm.							
Mastergrip Utilities							
5/8" Mach.	M-9958	M-9960	M-9962	M-9964	M-9966	M-9968	M-9970
Dbl. Arm.	---	---	---	---	M-9786	M-9788	M-9790
3/4" Mach.	M-9978	M-9980	M-9982	M-9984	M-9986	M-9988	M-9990
Dbl. Arm.	---	---	---	---	M-9796	M-9798	M-9800
Electrical Mfg. Co.							
5/8" Mach.	E-508	E-510	E-512	E-514	E-516	E-518	E-520
Dbl. Arm.	---	---	---	F-514	F-516	F-518	---
3/4" Mach.	E-608	E-610	E-612	E-614	E-616	E-618	---
Dbl. Arm.	---	---	---	F-614	F-616	F-618	---
Seyler							
5/8" Mach.	8958	8960	8962	8964	---	---	---
Dbl. Arm.	---	---	---	---	8786	8788	8790
3/4" Mach.	8978	8980	8982	8984	---	---	---
Dbl. Arm.	---	---	---	---	8796	8798	8800

Copper and Copperweld Copper:

<u>00x7</u>	<u>0x7</u>	<u>1x7</u>	<u>2x7</u>	<u>4</u>	<u>6</u>	<u>4A</u>	<u>6A</u>	<u>8A</u>	<u>9 1/2 D</u>	<u>3 1/2</u>
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Matthews

To same conductor or smaller Guy Strand $\frac{1}{4}$ " to 7/16" Service Connector	00-NU	0-NU	2-NU	4-NU	6-NU	2-NU	4-NU	6-NU	6-NU	6-NU
---	-------	------	------	------	------	------	------	------	------	------

Reliable

To same conductor or smaller Guy Strand $\frac{1}{4}$ " to 7/16" Service Connector	418C	373SC	1F	4F	6F	1F	1F	4F	4F	4F
				46SE	438AFC					
					68SE					

Burndy

To same conductor or smaller Guy Strand $\frac{1}{4}$ " to 7/16" Service Connector	KS26	KS25	KS23	KS20	KS17	KS23	KS20	KS17	KS17	KS17
				BP625S4C	BP625S4C					
				KP4C	KP6C					

Anderson Brass

To same conductor or smaller Guy Strand $\frac{1}{4}$ " to 7/16" Service Connector	LC22	ST-3	ST-2	ST-1	ST-1	ST-2	ST-1	ST-1	ST-1	ST-1
				LC522	LC522					
				SI	SI					

Blackburn

To same conductor or smaller Guy Strand $\frac{1}{4}$ " to 7/16" Service Connector	2/OH	1/OH	1H	4H	6H	2H	4H	6H	6H	6H
				4S	6S					

Line Material

To same conductor or smaller Guy Strand $\frac{1}{4}$ " to 7/16" Service Connector	CL10X13B	CL10X1B	CL10X1B	CL10X1B	CL10X1B	CL10X1B	CL10X1B	CL10X1B	CL10X1B	CL10X1B
	3132	3130	3130	3124	3126	3122	3124	3126	3126	3126
				3417-1	3419-1					

Copper and Copperweld Copper:

00x1

0x1

2x2

4

6

4A

6A

8A

9 1/2 D

3#12

Fargo

To same conductor

5020-S

5020

5002-S

5004

5006

5002

5004

5006

5006

5006

or smaller
Guy Strand 1/2" to 7/16"

Service Connector

SE4

SE6

J. R. Kearney

To same conductor

630-2R

56-2R

66-2R

905-2R

902-2R

66-2R

905-2R

902-2R

902-2R

902-2R

or smaller
Guy Strand 1/2" to 7/16"

Service Connector

6494

9968-1
6493

Sherman

To same conductor

R33

R33

R33

R33

R33

R33

R33

R33

R33

R33

or smaller
parallel groove split
bolt

TS1/0

TS2ST

TS4

TS6

TS2

TS4

TS6

TS6

TS6

Guy Strand 1/2" to 7/16"

Service Connector

SC4X

RI2-271
SC6X

K & H

To same conductor

UC58C

UC58C

UC58C

UC58C

UC58C
UC58B

UC58C

UC58C

UC58C

UC58C

UC58C

or smaller
Guy Strand 1/2" to 7/16"

Service Connector

397A

397A

Penn-Union

To same conductor

S2/CHR

S1/CHR

S2HR

S4HR

S6HR

S3HR

S4HR

S6HR

S6HR

S6HR

or smaller
Guy Strand 1/2" to 7/16"

Service Connector

SX4

SX6

Weaver

To same conductor

W3-4

W1-2

W1-2

W6-2

W6-2

W6-2

W6-2

W6-2

W6-2

W6-2

or smaller
Guy Strand 1/2" to 7/16"

Service Connector

W6-2

Copper and Copperweld Copper:

Sheldon

00x7

0x7

2x3

4

6

4A

6A

8A

9 $\frac{1}{2}$ D

3#12

To same conductor

DC41

DC37

DC29

DC20

DC16

DC29

DC26

DC20

DC20

DC20

Guy Strand $\frac{1}{4}$ " to 7/16"

* Service Connector

Joslyn

To same conductor

J3610

J3622

J3604

J3606

J3602

J3604

J3606

J3606

J3606

Guy Strand $\frac{1}{4}$ " to 7/16"

Service Connector

J3644

J3155
J3668

Porcelain Products

To same conductor

or smaller

Guy Strand $\frac{1}{4}$ " to 7/16"

Service Connector

2163

2165

Royal Electric

To same conductor

1739

1739

(p)

(Copper and Copperweld Copper)

Line Material	LONG CONNECTORS - 3 Conductor of size indicated		
	<u>1/2</u>	<u>#4</u>	<u>#6</u>
Anderson	-	-	10-900-36
K. & H.	-	44	-
Penn Union	S-EL-3H	S-EL-4H	S-EL-6H
Sherman	-	TSS-4	TSS-6
Reliable	-	1206SC	1165SC

(As recommended by ^(b)ductor manufacturer)

2/0	1/0	2	4	2/0	1/0	2	4
				Over Armor Rods			

A. C. S. R.ReliableTo A. C. S. R.Same size
or smaller

10ALW

2ALW

4ALW

744AL

744AL

555AL

To Copper

#4 & #6

744ALC

744ALC

555ALC

To Copperweld

4A, 6A, 8A,
9 $\frac{3}{4}$ D & 3#12

744ALC

744ALC

744ALC

To Guy Strand

1/4", 3/8"
& 7/16"

438AL

438AL

BurndyTo A. C. S. R.Same size
or smaller

KSA26

KSA23

KSA22

BPG64A26R BPG11A26R

BPG11A26R

To Copper

#4 & #6

BPG64A2W

BPG11A4W

BPG11A4W

To Copperweld

8A, 9 $\frac{3}{4}$ D & 3#12

BPG64A2W

BPG11A4W

BPG11A4W

To Guy Strand

1/4" to 7/16"

BPG625S2R

BPG625S2R

Anderson BrassTo A. C. S. R.Same size
or smaller

LC53

LC52

LC52

LC52

LC82

LC53

LC53

To Copper

#4 & #6

LC811

LC811

LC811

To Copperweld

4A, 6A, 8A, 9 $\frac{3}{4}$ D
& 3 #12

LC822

LC811

LC811

To Guy Strand

1/4" to 5/16"

LC53

LC53

(p)

A. C. S. R.

2/0

1/0

2

4

2/0

Over Armor Rods

2

4

BlackburnConnection to same conductor
or smaller

1/0AAW

2AAW

4AAW

To Copper #4 & #6

To Copperweld

To Guy Strand 1/4" to 7/16"

1/0AAW 1/0AAW

Line MaterialConnection to same conductor
or smaller

3960

3962

3964

CL10x7

CL10x7

CL10x9

CL10x11

CL10x3

CL10x3

CL10x1

To Copper #4 & #6

CL10x8

CL10x8

CL10x8

To Copperweld 8A, 9 3/4 D &

CL10x8

CL10x8

CL10x8

3 #12

4A & 6A

To Guy Strand 3/4" & 3/8"

3962

3962

J. R. KearneyConnection to same conductor
or smaller

6847-1

6846-1

6759-1

To Copper #4 & #6

To Copperweld 4A, 6A, 8A

9 3/4 D & 3 #12

To Guy Strand 1/4", 3/8"

& 7/16"

A. C. S. R.

Penn Union

2/0

1/0

2

4

2/0

Over Armor Rods

2

4

To same conductor
or smaller

-

AA-1/0

AA-2

AA-4

-

-

-

-

To Copper & Copperweld

-

-

-

-

-

-

-

-

To Guy Strand $\frac{1}{4}$ " & $\frac{3}{8}$ "

-

-

AA-1/0

AA-1/0

-

-

-

-

Joslyn

To same conductor
or smaller

-

J3619

J3617

J3616

-

J3196
3044

J3196
3044

J3198
3055

To Copper #4 to #6

-

J3629

J3627

J3626

-

3144

3144

3155

To Copperweld #4A to 3#12

-

J3629

J3627

J3626

-

3144

3144

3144

To Guy Strand

-

-

J3031

J3031

-

-

-

-

Aluminum Company of America

To same conductor
or smaller

190

192

192

194

184

196

196

198

To Copper #4 & #6

-

-

-

-

-

197

197

197

To Copperweld #8 to 3#12

-

-

-

-

-

197

197

197

To Guy Strand $\frac{1}{4}$ " to $\frac{7}{16}$ "

-

-

196

198

-

-

-

-

(p)
(As recommended by conductor manufacturers)

Amersteel, Ruralductor and Crapo: 4 4 6 6 8 8 8X 9X 10 12
Amerductor: 4 6 8 8X 9X 10 12

Matthews

To Amersteel	(Same)	2-A	K2-A	-	4-A	-	-	-
Ruralductor	(Size)	2-A	X2-A	-	4-A	-	-	-
Crapo	(or)	2-A	X2-A	-	4-A	-	-	-
Amerductor	(Smaller)	2-A	X2-A	4-A	4-A	4-A	4-A	6-A
To A.C.S.R.	1/0 over armor rods	-	-	500-NU Plated	-	-	-	-
	2 over armor rods	-	-	350-NU Plated	-	-	-	-
To Copper	4 over armor rods	W-2-AC	W-X2-AC	W-X2-AC	W-X2-AC	W-X2-AC	W-X2-AC	W-X2-AC
	4 and 6	W-2-AC	W-X2-AC	W-4-AC	W-4-AC	W-4-AC	W-4-AC	W-4-AC
To Guy Strand	1/4"	2-A	X2-A	X2-A	X2-A	X2-A	X2-A	X2-A
	3/8"	-	-	O-A	-	-	-	-
	7/16"	-	-	OO-A	-	-	-	-

Reliable

To Amersteel	(Same)	2-G	4-G	-	6-G	-	-	-
Ruralductor	(Size)	2-G	4-G	-	6-G	-	-	-
Crapo	(or)	2-G	4-G	-	6-G	-	-	-
Amerductor	(Smaller)	2-G	4-G	6-G	6-G	6-G	6-G	6-G
To A.C.S.R.	1/0 over armor rods	-	-	744A1	-	-	-	-
	2 over armor rods	-	-	744A1	-	-	-	-
To Copper	4 over armor rods	-	-	555A1	-	-	-	-
	4 and 6	2GC	4GC	6GC	6GC	6GC	6GC	6GC
To Guy Strand	1/4" to 7/16"	-	-	438A1	-	-	-	-

Bundy

To Amersteel	(Same)	KSL23	KSL22	-	KSL22	-	-	-
Ruralductor	(Size)	KSL23	KSL22	-	KSL22	-	-	-
Crapo	(or)	KSL23	KSL22	-	KSL22	-	-	-
Amerductor	(Smaller)	KSL23	KSL22	KSL20	KSL22	-	KSL22	-
To A.C.S.R.	1/0 over armor rods	-	-	BP664A25A	-	-	-	-
	2 & 4 over armor rods	-	-	BP611A25A	-	-	-	-
To Copper	4 and 6	KSLK123	KSLK122	KSLK120	KSLK122	-	KSLK122	-
To Guy Strand	1/2" to 7/16"	-	-	BP662552R	-	-	-	-

(As recommended by conductor manufacturers)

6	8		
4	8X	9X	10
4			12

To Amersteel

To A.C.S.R. 1/0 over armor rods
2 & 4 over armor rods

To Guy Strand 1/4" to 7/16"

To Ame

To A. C. S. R.
To Copper
To Guy Strand

To Amersteel

12244-p-3B

(p)
(As recommended by conductor manufacturers)

Amersteel, Ruralductor and Grapo:
Amerductor:

Kearney

To Amersteel	(Same)	6853-1	6852-1	-	-	-	-	-	-
Ruralductor	(Size)	6853-1	6852-1	-	-	-	-	-	-
Grapo	(or)	6853-1	6852-1	-	-	-	-	-	-
Amerductor	(Smaller)	6853-1	6852-1	-	-	-	-	-	-
To A.C.S.R.		-	-	-	-	-	-	-	-
To Copper	4	6839-1	6733-1	-	-	-	-	-	-
	6	6839-1	6733-1	-	-	-	-	-	-
To Guy Strand	1/4"	6853-1	6852-1	-	-	-	-	-	-
	3/8"	6854-1	6854-1	-	-	-	-	-	-
	7/16"	6855-1	6855-1	-	-	-	-	-	-

Sherman

To Amersteel	(Same)	PTS-2ST	PTS-2	-	PTS-4	-	-	-	-
	()	R-22	R-22	-	R-22	-	-	-	-
Ruralductor	(Size)	PTS-2ST	PTS-2	-	PTS-4	-	-	-	-
	()	R-22	R-22	-	R-22	-	-	-	-
Grapo	(or)	PTS-2ST	PTS-2	-	PTS-4	-	-	-	-
	()	R-22	R-22	-	R-22	-	-	-	-
Amerductor	(Smaller)	PTS-2ST	PTS-2	-	PTS-4	-	PTS-4	PTS-4	PTS-6
		R-22	R-22	-	R-22	-	R-22	R-22	R-22

To A.C.S.R.
To Copper 4 & 6
To Guy Strand 1/4"

	3/8"	PTS-1/0	PTS-1/0	-	PTS-1/0	-	PTS-1/0	PTS-1/0	PTS-1/0
		R-22	R-22	-	R-22	-	R-22	R-22	R-22
	7/16"	PTL-2/0	PTL-2/0	-	PTL-2/0	-	PTL-2/0	PTL-2/0	PTL-2/0
		R-22	R-22	-	R-22	-	R-22	R-22	R-22

Joslyn

To Same Conductor or Smaller	J3656	J3655	-	J3654	J3654	J3654	J3654	J3654
To A.C.S.R.	J3044	J3044	-	J3044	-	-	-	-
1/0 over armor rods	J3044	J3044	-	J3044	-	-	-	-
2 & 4 over armor rods	J3653	J3652	-	J3651	-	-	-	-
To Copper 4 & 6	J3031	J3031	-	-	-	-	-	-
To Guy Strand 1/4" to 7/16"	-	-	-	-	-	-	-	-

q - Bolt, double upset, insulated

<u>Manufacturer:</u>	<u>Insulator</u>		<u>Insulator</u>		<u>5/8" Bolt</u>		<u>5/8" Bolt</u>		<u>5/8" Bolt</u>	
	1-3/4" Groove*	3" Groove	5/8" Bolt	8"	9"	10"	5/8" Bolt	8"	9"	10"
Hubbard	455	1716	8826		8828		8830			
Line Material (Victor)	684	693	GP211		GP213		GP215			
Locke	355 24205	0716 -	7826 -		7828 -		7830 -			
Oliver	2100	2104	7524		7525		7526			
Joslyn (Pinco)	151	0101	2394		2395		2396			
Util. Service	205	199	31067		31069		31071			
Lewis	-	-	7524		7525		7526			
Electrical Mfg. Co.	210	218	U508D		U509D		U510D			
Seyler	Same numbers as Locke									

* FEA Standard

r - Clevis, secondary, deadend insulated

<u>Manufacturer:</u>	<u>Insulator</u>		<u>Clevis</u>		<u>Catalog Number:</u>		<u>Insulator</u>		<u>Clevis</u>	
	1-3/4" Groove		Single		Double		3" Groove		Single	
Hubbard	455		568	1340	1375		1716		569	
Joslyn	151		193	0342	0375		0101		463	
Line Material	684		GP251-S	1759	GP5051		693		GP251-S	143008
			1857						KG242C*	
			KG242B*							
Locke	355		468**	0342	0375		33013		468	
	24205						0716		469	
Oliver	2100		4834	4405	4465		2104		4833	
									4834	
Porc. Prod.	5101		1443	1444	11224		5119		1443	
			1453							

* War Standard Item, Acceptable for the duration and ninety days thereafter.

** Includes 1-3/4" Groove, wet process insulator.

(r)

Insulator
1 3/4" Groove

Clevis
Single

Clevis
Double

Insulator
3" Groove

Clevis
Single

Manufacturer:

Catalog Number:

Util. Serv.	504	509	---	---	---
Lectrolite	6000	904	---	---	904
Mastergrip	6000	904	---	---	904
Thomas	5897-W	13226-T-2	---	---	---
Electrical Mfg. Co.	210	632 641	573	218	634 642
Seyler	355 24205	468 0342	---	0716	468 469

s - Clevis, secondary, swinging, insulated

<u>Manufacturer:</u>	<u>Insulator</u> 1-3/4" Groove*		<u>Clevis</u> Single		<u>Insulator</u> 3" Groove		<u>Clevis</u> Single	
Hubbard	455		2968	1352	1716		1367	
Joslyn	151		0322		0101		0327	
Line Material	684		102939	102940	693		SEA-629	
Locke	355 24205		0352W*	0366	0716	33013	0353*	
Oliver	2100		4436	4438	2104			
Porc. Prod.	5101		1991		5119		-	
Util. Service	205		31043	31045	-		-	
Electrical Mfg. Co.	210		646		218		676	
Seyler	Same numbers as Locke							

* Number includes wet process insulator.

THE UNIVERSITY OF CHICAGO

1950

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

1961

1962

u - Clamp, guy - 3-bolt, 6"

Strand Size*:	1/4"	3/8"	7/16"
<u>Manufacturer:</u>		<u>Catalog Number:</u>	
Hubbard	7450	7450, 7461	7450, 7461
Joslyn	934	930, 931	931
Line Material	9492	9492, 9493	9493
Locke	6450	6450, 6461	6450, 6461
Oliver	9102	9002, 9004	9004
Util. Service	5273	5273, 5275	5273, 5275
Mastergrip	M7450	M7450, M7461	M7461
Inter. Derrick & Equipment Co.	14605	14605, 14603	14603
Electrical Mfg. Co.	802	802, 804	802, 804
Seyler	6450	6450, 6461	6450, 6461
Kortick	-	4124, 4005	4124, 4005
Kemper (roller clamp)	-	7-11	-

* As given by manufacturers.

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1. The first part of the paper is devoted to a review of the literature on the topic of the role of the state in the development of the economy. It is found that the state has played a significant role in the development of the economy in many countries, particularly in the case of developing countries. The state has been able to mobilize resources, create infrastructure, and provide social services, all of which have contributed to economic growth.

10

100

V - Guy Attachment

Type:
Strength:
Bolt Size:

Formed strap
* 5,200 lb. maximum
5/8"

Angle Thimble eye bolt
* 5,200 lb. maximum
5/8"

Manufacturer:

Catalog Number:

Hubbard	6004 6007	1100
Joslyn	6502	6500
Line Material	RL48	00158
Chance	-	158
Locke	5004	0100
Oliver	9083	7550
Util. Service	31030	5531
Electrical Mfg. Co.	796 798	-
Seyler	Same numbers as Locke	

* Note: A wrapped guy shall be used where guy tension exceeds 5,200 pounds.

W - Insulator, guy

Strength (lbs.)	10,000	10,000	10,000	10,000	20,000	20,000	10,000	20,000	25,000	30,000
Diam. hole (ins.)	3/8	1/2	5/8	3/4	3/4	7/8	1	1	1	1
<u>Manufacturer:</u>										
Ill. Elec. Prod.	---	---	534	536	---	---	---	538	540	---
Jeffery-Dewitt	---	---	2585	2586	---	---	---	2587	---	---
Pinco (Josl.)	---	---	---	1287	---	---	284	289	---	---
Iapp	---	---	5450	5451	---	---	5452	5452	---	---
Locke	---	---	7664	---	---	7665	---	---	---	7666
Ohio Brass	---	31350	---	31351	---	---	---	31352	---	---
Porc. Prod.	702	---	704	---	---	706	---	---	---	708
Thomas (Hubb.)	---	---	510	511	---	512	---	514	---	---
Westh's	---	530*	530	532	532	534*	534	534	534	536
Victor (L. M.)	---	---	552	554	---	---	---	556	---	---

Catalog Number:

* Has size larger hole but can be used for hole size shown.

x - Rod, anchor

Diam., inches
Length, feet

5/8	5/8	3/4	3/4	3/4	1	1	1
7	8	8	9	10	8	9	10

Manufacturer:

Catalog Number:

Hubbard

Thimbleye	6317	6318	6328	6329	6331	6338	6339	6340
Twineye	6347	6348	6358	6359	6360	6368	6369	6370

Joslyn

Thimbleye	7417	7418	7428	7429	7430	7438	7439	7440
Twineye	7517	7518	7528	7529	7530	7538	7539	7540

Line Material

Thimbleye	A-340023-2 & 6		A-340024-3, 8, & 9		A-340025-3, 5, & 4		
Twineye	Same as Chance with prefix "CC"						

Locke

Thimbleye	5317	5318	5328	5329	5330	5338	5339	5340
Twineye	5347	5348	5358	5359	5360	5368	5369	5370
Thimbleye-Drive	3317	3318	3328	3329	3330	3338	-	3340
Twineye-Drive	-	-	3358	3359	-	3368	-	3370

Kearney

Thimbleye	8607	8608	8708	8709	8710	8808	8809	8810
Twineye	-	-	8908	8909	8910	9008	9009	9010

Oliver

Thimbleye	8607	8608	8708	8709	8710	8808	8809	8810
Twineye	-	-	8908	8909	8910	9008	9009	9010

Chance

Thimbleye-Threaded	057	058	038	039	0310	018	019	010
Twineye-Threaded	-	-	0380	0390	-	0180	-	0100
Thimbleye-Drive	57	58	38	39	310	18	-	110
Twineye-Drive	-	-	380	390	-	180	-	1100

(x)

Diam. inches
Length, feet

5/8
7

5/8
8

3/4
8

3/4
9

3/4
10

1
8

1
9

1
10

Manufacturer:

Catalog Number:

Util. Serv.

Thimbleye
Twineye

5025

5026

5029
5037

5030
5038

5031
5038A

5033
5040

5033A
5040A

5034
5041

Electrical Mfg.

Single eye
Double eye

S584

S596

S696
DS696

S6108
DS6108

S6120
DS6120

S896
DS896

S8108
DS8108

S8120
DS8120

Kortick

Thimbleye
Twineye

3317

3318

3328
3458

3329
3459

3330
3460

3338
3468

3339
3469

3340
3470

Seyler

Same numbers as Locke

Mastergrip

MR57

MR58

MR38

Holding Power - lbs.
 Min. Req'd Expanded Area - sq. in. (2, 3 or 4W & P)
 Hole Diameter (max.), inches
 Rod Diameter (min.), inches
 Rod Length (min.), feet

Manufacturer:

Rock Guy Bolt Anchors

Catalog Number:

2500*	6000	8000	10000	12000
-	90	100	120	135
6	8	8	8	8
-	5/8	5/8	3/4	3/4
-	7	7	8	-

Chance

- (1) Expanding (2W)
- (2) Expanding (3W)
- (3) Expanding (4W)
- (4) Cone (C)
- (5) Screw (S)
- (6) Rock (R)
- (7) Plate (P)

Wej-Lock

- (2) (3W)
- (3) (4W)

Everstick

- (1) (2W)
- (2) (3W)
- (3) (4W)
- (4) (C)

Util. Service

- (6) (R)

5003

Same as Chance except prefix "C"
 Same as Wej-Lock except prefix "C"

Kearney

- (1) (2W)
- (2) (3W)
- (3) (4W)
- (5) (S)

Specialty Devices

- (4) (C)
- (7) (P)

Lewis

- (1) (2W)

-	82090	7104	8120	-
-	8090	8110	8125	-
-	84090	84110	84125	84140
65-1	-	-	-	-
-	8	10	12	-
-	15	-	-	-
-	816	818	-	-

* To be used in guying services only.

Manufacturer:
Jostlyn

Rock Guy Bolt Anchors

Catalog Number:

(2)
2500* 6000 8000 10000 12000

(Chance 3) (4W)
(" 4) (C)
(" 5) (S)
(" 6) (R)
(" 7) (P)
(Wej-Lock 2) (3W)
(" 3) (4W)
(Everstick 1) (2W)
(" 2) (3W)
(" 3) (4W)
(" 4) (C)
(6) (R)

J6547

Ill. Mail. (Superior)

(1) (2W)
(2) (3W)
(3) (4W)
(4) (C)
(5) (S)

Porc. Prod.

Hubbard

(1) (2W)
(5) (S)
(6) (R)

7547

Line Material

(1), (2) and (3)
(5) (S)
(6) (R)
(7) (P)

SA46x1

Wagner

Mastergrip

(1) (2W)
(2) (3W)

Seyler

(5) (S)
(6) (R)
6547

Matthews

(5) (S)

* To be used in guying service only.

6526
2834

J3427 J3428 J2855
J2881 J2882 J2883
J2861
J3436 J3437 J3438
J3444 J3445 J3446
J2876 J2877
J1592
J1677 J1678 J1679
J1686 J1687 J1594 3/4 J1688

82 836 8310 84-3/4
C-8 C-10 C-12
1645
Same as Chance except prefix "C"

Same as Chance and Wej-Lock except prefix "C"
7526

Same as Everstick except suffix "W" 84-1W
B-200005-1

A200103-1 A200104-1
Same as Everstick except suffix "W"
6290 72100 82120 82136
834 836

aa - Nut, eye, 5/8"
Conv. eyelet

ab - Nut, thimbleye
5/8" 3/4"

ac - Brace
sidearm
diagonal
1 1/4" angle
3/16" x 5'
ad - Pin
transf.
#22 Scr.
Wood

Manufacturer:

Catalog Number:

Hubbard	7502	7517	7510	7511	7981	126
Joslyn	1092	1126	6510	6511	1521	025
Line Material	1739	1741	A340010-1	A340010-2	9280	2311 2305
Chance	-	-	580	340	-	-
Locke	6502	6517	6510	6511	6981	026
Oliver	9460	9480	9440	9441	5171	3600
Util. Service	450	497	C580	C340	5210	587
Mastergrip	-	M7514	-	-	M7981	-
Inter. Derrick & Equipment Co.	-	14630	-	-	14061	-
Electrical Mfg. Co.	790	792	-	-	750	962
Seyler	Same numbers as Locke					
Kortick	4212	4411	3111	3112	1951	-

ae - Lightning arresters, distribution

<u>Manufacturer:</u>	<u>Type</u>	<u>Catalog No.</u>	<u>Mounting</u>	<u>Catalog No.</u>
Gen. Elec.	Pellet Pellet Pellet Pellet Pellet		Crossarm Crossarm Crossarm Crossarm Crossarm combination	*9LA10A 15 *9LA10A 25 *9LA10A 35 *9LA10A 185 *9LA10A 61
Elec. Service	Crystal Valve Crystal Valve Crystal Valve Crystal Valve	50932-L 50932-L 50932-L 50932-L	Crossarm Crossarm combination Flat Surface coupler to comb. bracket Only on arresters supplied to Line Material	Type DH (59271)** 63600 (59261)** Type DA (51795)** Type DEA 67254 (500000)**
Joslyn	Expulsion Expulsion	9231-P 9237-1	Crossarm Crossarm combination Crossarm	9201-C or 9207 9202-A
Westinghouse	Type T-De-ion Type T-De-ion	1123911 1123911	Crossarm Crossarm (3 $\frac{1}{2}$ x4 $\frac{1}{2}$)	1087204 1087204 and U-bolt clamp #945174
Line Material	Type E		Crossarm	*B-305151-17
Hubbard	Autogap	#2302	Crossarm Crossarm Crossarm	2304 2308 2309

* Catalog number includes arrester and mounting bracket.

** Numbers in parentheses are shop Part Numbers for corresponding catalog numbers.

ae - Lightning Arresters--Substation

Kv. Class	2.3	7.2	7.2/12.5	15	23	34.5	46	69
	Delta	Delta	Wye			Delta		

Manufacturer:

Catalog Number:

Gen. Electric	9LA10A2	9LA10A5	9LA10A5	9LA10A7	9LA2D60	9LA2D62	9LA2D64	9LA2D66
Line Type	9LA1E17	9LA1E19	9LA1E20	9LA1E27	9LA1E29	9LA1E31	9LA1E33	9LA1E35
Station Type								
Westinghouse	1151585	1123911	1123911	1198787	1225401	1225403	1225405	1225407
Line Type	1151601	1151603	1151604	1151605	1151607	1151609	1151611	1151613
Station Type								
Joslyn	9211P	9231P	9231P	---	---	---	---	---
Line Type								
Elec. Serv.	50927-L	50932-L	50932-L	50934-L	---	---	---	---
Line Type								
Line Material	---	B-305151-24	B-305151-24	B-305151-26	---	---	---	---
Line Type								

af - Cutout, fuse, single-shot, enclosed - Distribution

<u>Manufacturer:</u>	<u>Mounting:</u>	<u>50 Amps.</u>	<u>100 Amps.</u>	<u>Catalog Number:</u>
General Electric	Crossarm combination	9F6A254	-	-
	Crossarm	9F6A24	-	-
	Flat surface	9F6A204	-	-
	Bushing mounted	9F6B1	-	-
Kearney	Crossarm or combination	5770-10	5770-20	-
Line Material	Crossarm or combination	C230004-6	C230005-6	-
	Bushing mounted	C230152-6	-	-
	Flat surface	FVA-1024	-	-
	Cutout without bracket	1196201	-	-
Westinghouse	Crossarm bracket	1196213	-	-
	Crossarm combination	1123956	-	-
	Crossarm or combination	23	-	-
Matthews	Crossarm or combination	21491	-	-
Rwy. & Ind. Eng.	Crossarm or combination	60801	60811	-
Schweitzer & Conrad	Crossarm or combination	3456	-	-
Porcelain Products	Crossarm or combination	-	-	-

af - Cutout, fuse, single-shot, open - Distribution

Manufacturer:

Mounting:

Catalog Number:

50 Amps.

100 Amps.

General Electric

Cutout (tubeless)
Crossarm
Bushings Mounted

9F1745
9F3E2
9F3E20

9F3E3

Kearney

Crossarm
Crossarm
Bushings Mounted

6484-1 (trip-o-link)
6486

6401
1187-5

Line Material

Crossarm
Flat Surface
Bushings Mounted
Cutout

C230150-6
B230063-18
C230105-1
C230106-2 (open-link)

C230150-10
B230063-22

Westinghouse

Cutout without bracket
Crossarm bracket
Crossarm combination

1124278
1124274
1124275

1124279
1124274
1124275

Matthews

Crossarm

1640 (protectolink)

1452-4

Rwy. & Ind. Eng.

Crossarm
Crossarm

-

19862
20066

Schweitzer & Conrad

Crossarm
Crossarm

68611K
59991-K (open-link)

68611K

Southern States

Crossarm

373601

Porcelain Products

Cutout without bracket
Crossarm bracket

2711
Type C

2731
Type C

Joslyn

Crossarm

9237-1 (arrester and cutout combination)

af - Cutout, fuse, single-shot - Substation
(As required by REA, these cutouts meet NEMA "Power Switching Equipment Standards")

KV Class	15	23	34.5	46	69
Manufacturer:	Type:	Catalog Number:			
General Electric	Fiber tube, drop-out Gas deflectors Fuse unit	6129026G2 6029680F1 EG-1	6129026G3 Same for all classes Same for all classes	6129026G4 Same for all classes Same for all classes	6129026G5 6129026G6
Westinghouse	Fiber tube, drop-out Fiber tube, drop-out BA-200 De-ion mounting BA-200 fuse holder DBA-1 drop-out	1081042 1081043 825627 825630 1227172	- - 825628 825631 1227173	- - 1043289 1043291 1227174	- - - - 1227175 1227176
Schweitzer & Conrad	Fiber tube, drop-out Fiber tube, drop-out High capacity liquid clips	68062 68161 *21742 DC	68063 68163 *21743 Same for all classes	- - *21744 Same for all classes	- - *21745 *21746
Line Material	Fiber tube, drop-out Fiber tube, drop-out High capacity liquid	C230081-11 C230081-12 **B68048	- - Same for all classes	- - Same for all classes	- - -
Kearney	Fiber tube, drop-out	6445	5759	5764	-
Matthews	Fiber tube, drop-out	1358-5	1368-5	-	-
Rwy. & Ind. Eng.	Fiber tube, drop-out	19882	19883	-	-
Delta Star	B-3V Form 34	672321-4-S	672331-4-S	672351-4-S	672361-4-S 672382-4-S

* Is number of fuse mounting only. Fuses and clips must be ordered separately.
** Is number of fuse mounting only. Fuses and clips must be ordered separately. Use S & C fuses and clips.

φ Is style number of fuse mounting and fittings only. Fuse must be ordered separately.
φφ Is style number of fuse holder only. Refill must be ordered separately.

ag - Cutout, fuse, 3-shot, open-line Sectionalizing

Voltage Rating
Current Rating

7.2/12.5-KV.
50-amp.

7.2/12.5-KV.
100-amp.

Manufacturer:

Mounting:

Catalog Number:

Kearney

Crossarm

-

6867-1
7449

Line Material

Crossarm

-

C-230033-10 (RLC Type)

Schweitzer & Conrad

Crossarm
Double Crossarm

68651-K
9A24501-S

68651-K
-

Rwy. & Ind. Eng.

Crossarm

-

23628

Southern States

Crossarm

14701

14701-C

Matthews

Crossarm

1810

1810-X

eg - Cutout, fuse, 3-shot, open-Substation

Voltage Rating
Current "

15-Kv.
50-amp.

15-Kv.
100-amp.

Manufacturer:

Mounting:

Catalog Number:

Kearney

Channel Base

6875-1

Line Material

" "

C-230015-14

Schweitzer & Conrad

" "

68322-S

68332-S

Rwy. & Ind. Eng.

" "

23937

Southern States

" "

177101

177101-C

Matthews

" "

1840

Note: In accordance with REA requirements, the cutouts above conform to "N.E.M.A. Power Switching Equipment Standards."

ah - Brackets, cutout and arrester

<u>Manufacturer:</u>	<u>Crossarm</u>	<u>Cutout</u>	<u>Pole</u>	<u>Crossarm</u>	<u>Arrester</u>	<u>Pole</u>
General Electric	Cutout number includes bracket			Arrester number includes bracket		
Kearney	Cutout number includes bracket					
Line Material	Cutout number includes bracket			Arrester number includes bracket		
Westinghouse	1124274		1124276	1087204		10872404
Mathews	Cutout number includes bracket					
R. & I. E.	Cutout number includes bracket					
Schweitzer & Conrad	Cutout number includes bracket					
Southern States	Cutout number includes bracket					
Joslyn	-		-	9207		9203-C
Electric Service	-		-	Type DH		Type DAL

Ground Rods

Diameter (inches)	5/8	5/8	5/8	3/4	3/4	3/4	1	1	1
Length (feet)	8	9	10	12	16	18	16	18	20

Manufacturer:

Catalog Number:

Hubbard (Cu. Wld)	9438	9439	9440	9452	9456	9458	9476	9478	9479
-------------------	------	------	------	------	------	------	------	------	------

Oliver (Cu. Wld)	Same as "Hubbard"								
------------------	-------------------	--	--	--	--	--	--	--	--

Joslyn (Cu. Wld)	8338	8339	8340	8352	8356	8358	8376	8378	8379
------------------	------	------	------	------	------	------	------	------	------

Line Material (Bridgeport)	119952	119953	119954	119961	119989	119991	119996	119998	119970
----------------------------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Locke (Cu. Wld)	8438	8439	8440	8452	8456	8458	8476	8478	8479
-----------------	------	------	------	------	------	------	------	------	------

Anaconda	GRL848	GRL849	GRL8410	GRL8512	GRL8516	GRL8518	GRL8716	GRL8718	GRL8720
----------	--------	--------	---------	---------	---------	---------	---------	---------	---------

Phelps Dodge	BR38	BR39	BR310	BR412	BR416	BR616	BR618	BR620	
--------------	------	------	-------	-------	-------	-------	-------	-------	--

Util. Service (Cu. Wld)	5617	5618	5619	5637	5641	5643	5656	5658	5660
-------------------------	------	------	------	------	------	------	------	------	------

Ideco	CT508	CT509	CT510	CT612	CT616	CT618	CT816	CT818	CT820
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

M. & W. Elec. Mfg.	1000*	----	----	----	----	----	----	----	----
--------------------	-------	------	------	------	------	------	------	------	------

Butt Grounds

Joslyn	Preformed Ground - #6 Copper, 8 turns								
--------	---------------------------------------	--	--	--	--	--	--	--	--

Mastergrip	*Groundex" plate ground - M X 760								
------------	-----------------------------------	--	--	--	--	--	--	--	--

* War Standard Item (acceptance good for duration and ninety days thereafter).

aj - Clamp, ground rod

Size (rod diam. inches)

5/8"

3/4"

1"

Manufacturer:

Catalog Number:

Hubbard

6492

6493

9495

Oliver

Same as "Hubbard"

Joslyn

3992

3993

8395

Line Material

126492
LMCO 5/8

126493
LMCO 3/4

9997

Locke

5592

5593

8495

Anaconda

GRLS-5

GRLS-6

GRLS-8

Reliable

E58

E68

Burndy

GH635

GH64

GH65

Sherman

GF-17

Blackburn

GG-5/8

GG-3/4

Util. Serv.

6667

5668

5669

Phelps Dodge

TC53

TC54

TC56

Weaver

WB5/8

WB3/4

Anderson

GC101-01

GC101-02

GC101-03

K & H

85

Seyler

Same numbers as Locke

Kearney

9957-11

9957-12

12244-aj

a1 - Staples, ground wire

Required Dimensions

9 Ga. x $1\frac{1}{2}$ " long x $3/16$ " spread

Manufacturer:

Catalog Number:

Hubbard

8533

Joslyn

1671

Line Material

9802

Locke

7511 $3/4$

Oliver

9792

Util. Serv.

-

Copperweld

-

Electrical Mfg. Co.

652

KVA Capacity:

--

Manufacturer:

Type:

Allis Chalmers

HAF

General Electric

HA or HSA (with LA & Bushing
Mtd. open-type cutout)
HA or HSA (with LA & Bushing
Mtd. enclosed cutout)

Order by description and rating

Catalog Number:

1 1/2

3

5

7 1/2

10

15

Kuhlman

Rural RR
RRFG with Int. Fuse & Open Gap
CSP

6139RRR
6139RRFG
6139RRC

6140RR
6140RRFG
6140RRC

6141RR
6141RRFG
6141RRC

6142RR
6142RRFG
6142RRC

6143RR
6143RRFG
6143RRC

6144RR
6144RRFG
6144RRC

Line Material

LA Rural
CSP

11T1R
11T1R3I
11T1RKL

11T2R
11T2R3I
11T2RKL

11T3R
11T3R3I
11T3RKL

11T4R
11T4R3I
11T4RKL

11T5R
11T5R3I
11T5RKL

11T6R
11T6R3I
11T6RKL

LA with Int. Fuse
LA with Int. Fuse & Open Gap

L-11T1RF
L-11T1RFG
L-11T1RKL

L-11T2RF
L-11T2RFG
L-11T2RKL

L-11T3RF
L-11T3RFG
L-11T3RKL

L-11T4RF
L-11T4RFG
L-11T4RKL

L-11T5RF
L-11T5RFG
L-11T5RKL

L-11T6RF
L-11T6RFG
L-11T6RKL

Moloney

HE Pivot
CSP

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Wagner

HEB-F
HEB-F with Int. Fuse
HEB-F with Int. Fuse & Open Gap

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Westinghouse

S, Class-B-2
CSP, " "
S with Int. Fuse
S with Int. Fuse & Open Gap

106-003
106-203
106-703
106-803

206-003
206-203
206-703
206-803

306-003
306-203
306-703
306-803

406-003
406-203
406-703
406-803

506-003
506-203
506-703
506-803

606-003
606-203
606-703
606-803

Standard

AR

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

Order by description and rating

ao - Bolt, thimbleye, straight

Size (in. diam. x in. lg.)

5/8x8

5/8x10

5/8x12

3/4x8

3/4x10

3/4x12

Manufacturer:

Catalog Number:

Hubbard	6508	6510	6512	6608	6610	6612
Joslyn	8050 8408	8051 8410	8052 8412	8060 -	8061 -	8062 -
Chance	5885	58105	58125	3485	34105	34125
Line Material	Same as "Chance" with prefix "CC."					
Locke	5508	5510	5512	5608	5610	5612
Oliver	6748	6750	6752	6848	6850	6852
Util. Service	5127	5128	5129	5134	5134A	5135
Seyler	Same numbers as "Locke"					
Kortick	3215	3216	3217	3235	3236	3237
Electrical Mfg. Co.*	S508	S510	S512	S608	S610	S612

* Strand eye

ap - Clamp, hot line

<u>Copper Conductor</u>									
Gauge	00x7	00	0x7	0	2x3	2	4	6	
Diameter, inches	0.414	0.365	0.368	0.325	0.320	0.258	0.204	0.162	

Manufacturer:

Catalog Number:

Tips	SI725CC	SI725CC	SI725CC	SI725CC	SI725CC	SI715CC	SI715CC	SI715CC
Fargo	XK9C	Same for all sizes						
Line Material	Same as Fargo							
Burndy	HTM 262C	Same for all sizes						
Kearney	1700-20	1700-20	3517	3517	3517	3517	3517	3517
Fulton Siphon Co.	-	-	-	-	701	701	701	701
Weaver	WS or WSB	Same for all sizes						
Southern States	WC-50-48	WC-50-48	WC-50-48	WC-50-48	WC-50-48	WC-50-48	WC-50-48	-
Matthews	5944	Same for all sizes						
Mastergrip	Same numbers as Weaver							
Bodendieck	425CC	425CC	425CC	425CC	400CC	400CC	400CC	400CC
Delta Star*	LGE-101	Same for all sizes						
Reliable	596C	596C	596C	596C	328C	328C	328C	328C
Royal Electric	10700	Same for all sizes						

* For use on substations only.

ap - Clamp, hot line

<u>Cold.-Copper Conductor:</u>		30% EHS		40% HS	
Gauge	Diameter, inches	3#6	4A	6A	8A
		0.349	0.290	0.230	0.199
				0.179	0.174
					9 1/2 D
					0.174
					0.174

Manufacturer:

Catalog Number:

Tips	SI725CC	SI715CC	SI715CC	SI715CC	SI715CC	SI715CC
Fargo	XK9C	Same for all sizes				
Line Material	Same as Fargo					
Burndy	HTE 262C	Same for all sizes				
Kearney	3517	Same for all sizes				
Weaver	WS or WSB	Same for all sizes				
Southern States	WC-50-48	WC-50-48	WC-50-48	WC-50-48	-	-
Matthews	5944	Same for all sizes				
Mastergrip	Same as Weaver					
Bodendieck	425CC	400CC	400CC	400CC	400CC	400CC
Delta Star*	LGE-101	Same for all sizes				
Fulton Sylphon Co.	-	701	701	701	701	701
Reliable	596C	328C	328C	328C	328C	328C
Royal Electric	10700	Same for all sizes				

* For use on substations only

ap - Clamp, Hot line

A.C.S.R.							
Gauge	2/0-6/1	1/0-6/1	2-7/1	2-6/1	4-7/1	4-6/1	
Diam., inches, bare	0.447	0.398	0.325	0.316	0.257	0.250	
Diam., inches, plus rods	0.835	0.744	0.595	0.586	0.555	0.548	

Manufacturer:

Catalog Number:

Tips	AA*	SI735AA	SI735AA	SI720AA	SI720AA	SI720AA	SI720AA
	AC*	SI735AC	SI735AC	SI720AC	SI720AC	SI720AC	SI720AC

Fargo	AA*	-	-	K6A	K6A	XK9A	XK9A
	AC*	-	-	K6AC	K6AC	XK9AC	XK9AC

Line Material Same as Fargo

Burndy	AC*	HTE40R25	HTE40R25	HTE30R25	HTE30R25	HTE30R25	HTE30R25
--------	-----	----------	----------	----------	----------	----------	----------

Kearney	AA*	3520-2	3520-2	1700-21	1700-21	1700-21	1700-21
	AC*	3520-1	3520-1	1700-22	1700-22	1700-22	1700-22

Bodendieck	AA*	625AA	530AA	530AA	530AA	530AA	530AA
	AC*	635AC	530AC	530AC	530AC	530AC	530AC

Johnson	AA*	J450	J450A	J450A	J450A	J404A	J404A
	AC*	Same as for AA*	except add suffix "C"				

Weaver	AA*	-	WSB-C	Same for remaining sizes			
	AC*	-	WSB-C	Same for remaining sizes			

Southern States	AA*	-	-	WA-56-50	WA-56-50	WA-50-48	WA-50-48
	AC*	-	-	WB-56-50	WB-56-50	WB-50-48	WB-50-48

Mastergrip Same as Weaver

AA* - Indicates connection from Al over armor rods to Al.
AC* - Indicates connection from Al over armor rods to Cu. or Cwld.

ap - Clamps, hot line

A.C.S.R.

2/0-6/1

1/0-6/1

2-7/1

2-6/1

4-7/1

4-6/1

Manufacturer:

Reliable

AA

Catalog Number:

596CP

596CP

596CP

596CP

ap - Clamp, hot line

(As recommended by conductor manufacturers)

<u>Amersteel, Crapo & Ruralductor</u>	4	6	8
---	---	---	---

Amerductor Conductor

Gauge	4	6	8	8X	9X	10	12
-------	---	---	---	----	----	----	----

Diam., inches	0.310	0.248	0.196	0.216	0.192	0.220	0.175
---------------	-------	-------	-------	-------	-------	-------	-------

Manufacturer:

Catalog Number:

Kearney	AA AC	1700-21 1700-22	3517-1 3517-2	Same for remaining sizes Same for remaining sizes
---------	----------	--------------------	------------------	--

Chance	AA AC	S-1725AA S-1725AC	Same for remaining sizes Same for remaining sizes
--------	----------	----------------------	--

Line Material (Chance)	AA AC	S-1725AA S-1725AC	Same for remaining sizes Same for remaining sizes
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Reliable		328CP	Same for remaining sizes
----------	--	-------	--------------------------

Bodendieck		425GP	Same for remaining sizes
------------	--	-------	--------------------------

ar - Wire Holder

Type

With #22 Wood Screw

Manufacturer:

Catalog Number:

With 3/8" x 5" Bolt

Hubbard	4-11-44	7-11-72
Joslyn	089 090	079
Line Material	3-3-3 3-4-3	3-8-5
Locke	0611-44 0611-46	0611-42
Porc. Prod.	1970 1980	---
Oliver	2515 2516	---
Lectrolite	1100	---
Mastergrip	Same as Lectrolite	
Util. Serv.	1945	1947
Seyler	3-11-44	
Kearney	8516	
Elec. Mfg. Co.	70	

as - Clevis, service, swinging, insulated

Manufacturer:

Catalog Number:

Insulator

Clevis

Hubbard

1706
1606

2938
2948

Joslyn

150
100

1624
1626

Line Material

670
674

102938

Locke

0706
0606

1938
1948

Porc. Prod.

5107
5207

1990

Oliver

2400
2300

4440
4441

Util. Serv.

208
207

31003
31004

Electrical Mfg. Co.

201
211

617
647

Seyler

Same numbers as Locke

at -- Guy Guard

Description

Full Round, 8 ft. long x 18 ga. min.

Manufacturer:

Catalog Number:

Hubbard	7658
Joslyn	1618
Line Material	SD-128
	SD-128-MB
Locke	6598
Oliver	1385
Specialty Devices	8180SG
	8180MB
Util. Service	8118
Matthews	8118
Kearney	5286-1
Seyler	6598
Kortick	SD28SP
Weaver	JAW

ba - Bolt, thimbleye, angle

Size (in. diam. x in. lg.)

5/8x8 5/8x10 5/8x12 3/4x8 3/4x10 3/4x12

Manufacturer:

Catalog Number:

Hubbard	6008	6010	6012	6108	6110	6112
Joslyn	8150	8151	8152	8160	8161	8162
Chance	5885A	58105A	58125A	3485A	34105A	34225A
Line Material	Same as "Chance" with prefix "CC"					
Locke	5008	5010	5012	5108	5110	5112
Oliver	7650	7651	7652	7750	7751	7752
Util. Service	5140	5140	5142	5146	5147	5148
Seyler	Same numbers as Locke					
Kortick	3255	3256	3257	3275	3276	3277
Electrical Mfg.*	S508A	S510A	S512A	S608A	S610A	S612A

* Strand eye

bp - Brace, sidearm vertical
24-in. spacing

bc - Bracket, pole, primary

<u>Manufacturer:</u>	2-arm	3-arm	<u>Catalog Number:</u>
Hubbard	7986	7987	152
Joslyn	1536	1537	052
Line Material	9271	9275	SA74xi
Locke	6986	6987	052
Oliver	5163	5164	1520
Util. Service	5249	5250	644
Mastergrip	M7986	M7987	-
Inter. Derrick & Equipment Co.	14040	14041	-
Electrical Mfg. Co.	766	767	-
Seyler	6986	6987	052
Kortick	1931	1932	-

be - Circuit Breaker, 3-shot, Automatic Cil

Manufacturer:

Catalog Number:

7.2/12.5 kv

15 kv

1- ϕ

3- ϕ

1- ϕ

3- ϕ

General Electric

FP-119

-

FP-119

-

Pacific Electric

AP-1-1T

AP-1-3T

AP-2-1T

AP-2-3T
AP-40-3

Westinghouse

AR-1*

-

AR-1*

-

Line Material

HAL-C

-

HAL-C

-

* Specify Amp. rating desired.

bh -- Clevis, service depend, insulated

Manufacturer:

Hubbard	1341
Joslyn	0341
Line Material	1757
Locke	0341
Oliver	4410
Porelain Products	1442
Util. Service	31136
Mastergrip	901
Thomas	13205
Elec. Mfg. Co.	600
Seyler	0341

bj - Guy hook

4"x1-3/4"x3/8", 11/16" hole

Manufacturer:

Hubbard
Joslyn
Line Material
Locke
Oliver
Util. Service
Mastergrip
Inter. Derrick &
Equipment Co.
Electrical Mfg. Co.
Seyler
Kortick

Catalog Number:

7584
1019
9502
6584
9041
5310
M7584
14611
835
6584
4031

bK - Guy Plate

Manufacturer:

Catalog Number:

Strain type
4"x8"x14 gauge

Lift type
2 1/2"x7"x1/4", 2 hole

Hubbard	7575	8888
Joslyn	1034	7894
Line Material	9515	60434
Locke	6575	7888
Oliver	9050	6967
Util. Service	5351	0334
Mastergrip	M7575	-
Inter. Derrick & Equip. Co.	14160	-
Electrical Mfg. Co.	585	525
Seyler	6575	7898 (3 hole)
Kortick	4015	3511

b1 - Thimble, Dead-End
(For A.C.S.R. only. See note on Drwg. M42-10)
All items listed shall have 5/8" cotter bolts

Manufacturer:

Catalog Number:

Hubbard	675
Joslyn	565
Line Material	SA9x1 (M.L.) SA9x2 (Alum.)
Locke	80425 575
Porc. Prod.	---
Oliver	4258
Util. Serv.	31257
Ohio Brass	80425
Aluminum Co.	---
Brewer - Titchener	2400
Seyler	80425 575

bm - Thimbles, Guy 5/8 in.
 (For use on Cu., Cwld., A.C.S.R., Amerductor, Amersteel, Ruralductor and Crapo Deadends)
 (See Dwg. M42-1, M42-2, and M42-10)

<u>Manufacturer:</u>	<u>Catalog Number:</u>
Hubbard	7595 7695
Joslyn	J1059 *575 (combination thimble and clevis)
Line Material	9507 *1747 (combination thimble and clevis)
Locke	6595 *573 (combination thimble and clevis)
Oliver	9032
Util. Service	5411
Mastergrip	M7595
Inter. Derrick & Equip. Co.	14622
Seyler	6595
Kortick	4063

* This combination includes both the Guy thimble and the anchor shackle "bo."

bn - Clamp, loop deadend
(For A.C.S.R. only. See DWG. M42-10)

Aluminum Conductor

Gauge	2/0-6/1	1/0-6/1	2-7/1	2-6/1	4-7/1	4-6/1	6-6/1
Diam. Bare (inches)	0.447	0.398	0.325	0.316	0.257	0.250	0.198

Manufacturer:

Catalog Number:

Hubbard	-	-	4466	4466	4466	4466	-
Joslyn	-	J1413	J1412	J1412	J1412	J1412	-
Line Material	-	-	CL9x1	CL9x1	CL9x2	CL9x2	-
Alum. Co. of Amer.	-	413	412	412	411 412	411 412	-
Anderson	LC703-3	LC702-2	LC-71	LC-71	LC-71	LC-71	LC-71
Jocke	-	-	3466	3466	3466	3466	-
Seyler	Same numbers as Jocke						

100-200-100

bo - Shackles, anchor
 (For use on Cu., Cwld., A.C.S.R. and Anerductor deadends
 See Dwg. M42-1, M42-2, and M42-10)
 All items listed shall have 5/8" cotter bolts

Manufacturer:

Catalog Number:

Hubbard	6801
Joslyn	11349
	*575 (combination thimble and clevis)
Line Material	V3020
	*1747 (combination thimble and clevis)
Locke	5801
	*573 (combination thimble and clevis)
Oliver	1435
Util. Service	4106
Ohio Brass	13722
Westinghouse	437079-A
Jeffery-Dewitt	1650
	1641
Thomas	5490 T-3
Brewer Titchener	3022
Seyler	5801
	*573 (combination thimble and clevis)
Kortick	4481

* This combination includes both the guy thimble "bm" and the anchor shackle.

bs - Bolts, single upset, insulated
(For use on neutral conductor only)
(See Dwg. M25-1 and M25-2)

Manufacturer:

	Insulator (wet process) 1-3/4" Groove 3" Groove	Bolt diam. Bolt length	5/8" 6"	5/8" 7"	5/8" 8"	5/8" 9"	5/8" 10"
Hubbard	455	1716	-	-	8741	-	8742
Joslyn	151	0101	-	-	2342 1/2	2343 1/2	2344 1/2
Line Material	684	693	-	-	-	1401-2	1402-2
Locke	355 24205	0716	7739	7740	7741	7741 1/2	7742
Oliver	2100	2104	-	-	7508	7509	7510
Util. Service	205	-	-	-	31053	-	31054
Lewis	-	-	-	-	7508	7509	7510
Electrical Mfg. Co.	-	-	-	-	U508	U509	U510
Seyler	Same numbers as Locke						

cf - Packs, service, insulated

Manufacturer:

Catalog Number:

8-in. Spacing

2-wire

3-wire

Hubbard

2748

3748

Joslyn

2648

3648

Line Material

21028

21038

Locke

1748

2748

Oliver

2328

2338

Lectrolite

2002

2003

Mastergrip

Same as Lectrolite

Electrical Mfg. Co.

5280

5380

Seyler

Same as Locke

cg - Switches, pole top, air-break, gang-operated
(Switches must conform with NEMA "Power Switching Equipment Standards")

Manufacturer:

Catalog Number:

Kv.

Amp.

2-Insulator

3-Insulator

Schweitzer & Conrad

15*	200	49222-Spl.	49232
15	400	49422-Spl.	49432
23	200	49223-Spl.	49233
23	400	49423-Spl.	49433
34.5	200	49224-Spl.	49234
34.5	400	49424-Spl.	49434

Over 34.5

PRH

Westinghouse

15*	200	1114674**	1114662**
15	400	1123855	1392124
15	600		1392125
23	200	1114676**	1114667**
23	400	1123858	1392128
23	600		1392129
34.5	200	1114677**	1114668**
34.5	400	1123864	1392132
34.5	600		1392133
46	600		1392136
69	600		1392138

Rwy. & Ind. Eng.

Line Material

15*	200	23363**	22776**
23	200	23364**	22777**
34.5	200	23366**	22779**
15*	200	C-40429-8	C-40434-5
15	400	C-40429-10	C-40434-6
23	200	C-40429-50	C-40434-9
23	400	C-40429-52	C-40434-10
34.5	200	C-40429-56	C-40434-13
34.5	400	C-40429-58	C-40434-14
34.5	600	C-40429-60	C-40355-19
46	600	C-40429-36	C-40355-23
69	600	C-40429-66	C-40355-34
15*	200	35161-S	35171
23	200	35162-S	35172
34.5	200	35163-S	35173

Electric Power Equip. Corp.

* Use 15 Kv switches on 7.2/12.5 Kv Wye voltages.

** Order with NEMA Standard insulators and steel shaft.

(cg)

Manufacturer:Catalog Number:

	Kv.	Amp.	2-Insulator	3-Insulator
Delta Star	15*	200	623320Spl.	625320Spl.
	"	400	528010Spl.	900310
	23	200	623330Spl.	625330Spl.
	"	400	528020Spl.	900320
	34.5	200	623350Spl.	625350Spl.
Memco	"	400	528035Spl.	900340
	46	400	528040Spl.	
	15*	200	18772A	18742
	23	400	18773A	18472
	34.5	400	18775A	18474
General Electric	46	400	18315A	18475
	69	400		18477
	15*	200	6052366G2	6052362G2
	"	400	6052757G6	6052757G2
	23	200	6052366G3	6052362G3
Southern States	"	400	6159202G3	6159200G3
	34.5	200	6052366G5	6052362G5
	"	400	6159202G4	6159200G4
	46	600		6159200G11
	69	600		6159200G12
	15*	200	30404Spl.	30504
	"	400	30405Spl.	30505
	23	200	30408Spl.	30508
	"	400	30409Spl.	30509
	34.5	200	30416Spl.	30516
	"	400	30417Spl.	30517
	"	600	30418Spl.	30518
	46	600		30520
	69	600		30524

* Use 15-Kv. switches on 7.2/12.5-Kv. Wye voltages

12244-cg-2

(cg)

Manufacturer:

Catalog Number:

	<u>Kv.</u>	<u>Amp.</u>	<u>2-Insulator</u>	<u>3-Insulator</u>
Kearney	15*	200	SP6455-3	6455-33
	15	400	SP6456-3	6456-33
	23	200	SP6457-3	6457-33
	23	400	SP6458-3	6458-33
	34.5	200	SP6459-3	
	34.5	400	SP6460-3	7542-33
	34.5	600		7543-33
	46	600		7546-33
	69	600		7552-33
	69	600		7552-33
Pacific Elec.	15*	200	PS-13055	PS-13005
	15	400	S-9106	S-9006
	15	600	S-9107	S-9007
	23	200	PS-13060	PS-13010
	23	400	S-9111	S-9011
	23	600	S-9112	S-9012
	34.5	200	PS-13070	PS-13020
	34.5	400	S-9166	S-9066
	34.5	600	S-9167	S-9067
	46	600	S-9122	S-9022
Royal Electric	69	600	S-9142	S-9042
	15	400		7559

* Use 15 Kv switches on 7.2/12.5 Kv Wye voltages

Note: When ordering Pacific Elec. Mfg. Co.'s
2-insulator switches, state that extension
link for supporting pantograph must be sup-
plied as part of switch.

12244-cg-3

ch - Fuse links

Whenever possible, the following recommendations in regard to fuse links should be observed.

- (1) That the cutouts and links on a project be of the same manufacture.
- (2) That only one make of cutout and fuse link be installed on a project in order to obtain the best possible fuse coordination.

ci - Clevis, thimble, side-opening
 All items listed shall have 5/8" cotter bolts
 (For use on Cu. or Cwld.-Cu., Amerductor or Steel only, as shown on Drwg. M41-1)

Numbers listed will accommodate:

#6- #2/Ox7, Solid Copper
 #12- #6, Copperweld Copper
 #12- #4, Amerductor

Manufacturer:

Catalog Number:

Hubbard		674
Joslyn (Pinco)		L-4096
Victor (Line Material)		V-2282
Locke		42400
Oliver		-
Forc. Prod.		7532
Util. Service		-
Ohio Brass		82825
Thomas		15051
Jeffery-Dewitt		5028
Westinghouse		968755
Electrical Mfg. Co.		595-T
Seyler		574
Lapp		22525

ck - Clamp, Anchor Rod Bonding

Diam. of Rod

5/8"

3/4"

1"

Manufacturer:

Catalog Number:

Hubbard

Single eye
Twineye

4143

"

4143
4145

Joslyn

Single eye
Twineye
Tripleye

3230

"

3230
3231
3233

3230
3232
3233

Line Material

Single eye
Twineye

A221004-1

"

A221004-1
A221005-1

A221005-2

Locke

Single eye
Twineye

3143

"

3143
9143

3143
9143

Chance

Single eye
Twineye

05060

"

05060
05061

05061

Seyler

Same numbers as Locke

Oliver

Single eye
Twineye

9123

"

9123
9122

9123
9122

cl - Gap, Lightning Protection

(Accepted use only in conjunction with Oil Circuit Breakers and Conventional Transformers.)

<u>Manufacturers:</u>	<u>Type:</u>	<u>Catalog Number:</u>
Jas. R. Kearney Company	Trip-O-Gap	12525-5
	Double Spill Gap	12823
Line Material Company	SGF Expulsion Gap	C-305189-4
V. W. Matthews Corporation	Ring Gap	6059

cm - Insulator, spool

Type: Groove Diam.	Secondary		Service
	1-3/4"	3"	1-3/8"
Manufacturer:	Catalog Number:		
Hubbard	455	1716	1506 (dry)* 1706 (wet)*
Joslyn	151	0101	100 (dry)* 150 (wet)*
Line Material	684	693	670 (dry)* 674 (wet)*
Locke	24205 355	0716 33013	0606 (dry)* 0608 (wet)*
Oliver	2100	2104	2300 (dry)* 2400 (wet)*
Electrical Mfg. Co.	210	218	201 (dry)* 211 (wet)*
Westinghouse	816681	1028123	881845 (dry)* 881844 (wet)*
Ill. Elec. Porc.	101	96	100DP (dry)* 100WP (wet)*

* "wet" and "dry" designations refer only to service spools.

All secondary spools listed are wet process.

(cm)

Type:
Groove Diam.

Secondary
1 3/4" 3"

Service
1 3/8"

Manufacturer:

Catalog Number:

Forc. Prod.	5101	5119	5107 (dry)* 5207 (wet)*
Util. Serv.	205	----	207 (dry) 208 (wet)
Lectrolite	6000	----	5001 (dry) 6001 (wet)
Jeffery Dewitt Insulator Co.	-----	2383	2379 (wet)
Mastergrip	6000	----	5001 (dry) 6001 (wet)
Ohio Brass	36361	----	36139 (wet)
Thomas	5897W	12202	6997 D (dry) 6997 W (wet)
Seyler	24205 355	0716	0606 (dry) 0706 (wet)

* "Wet" and "Dry" designations refer only to service spools.
All secondary spools listed are wet process.

(co)

Secondary Fuses, Cutouts

<u>Manufacturer:</u>	<u>Refuseable Type Catalog No.</u>	<u>Non-Refuseable Type Catalog No.</u>
Line Material	FUA1503	
W. N. Matthews Corp.	2100-1	CTS
General Electric Company	9F7A1	9F13B
Schweitzer and Conrad	221120	
Bussman	JAB	

cp - Sleeve, compression deadend

Copper & CWC

Gauge Diam. (inches)	2x3 .320	4 .204	6 .162	6A .230	8A .199	8C, 9 $\frac{1}{2}$ D, 3 #12 .174
Nat. Tel. Sup. Co. 71-258/3x		71-204-P	71-162U	71-6A-P	71-8A-P	71-3/081 M

Amerductor

Gauge Diam. (inches)	4 .310	6 .248	8 .196	8X .216	9X .192	10 .220	12 .175
Nat. Tel. Sup. Co.			72-85C-P				72-12SC-P

Ruralductor

Gauge Diam. (inches)	4 .297	6 .252	8 .207
Nat. Tel. Sup. Co. 75-238/3W		75-203/3S	75-165/3L

cg - Sleeve, offset splicing
(For use on secondary deadends only)

Copper & CMC:

Gauge	2x3	4	6	6A	8A	8C, 9 $\frac{1}{2}$ D
Diam. (inches)	.320	.204	.162	.230	.199	3#12 .174
Mat. Tel. Sup. Co.	---	91-204-P	91-162J	91-6A-P	91-8A-P	91-3/081M

cx - Sleeve, splicing, single oval tube

Copper & Copperweld Copper:

Gauge Diam. (inches)	0x7 .368	2x3 .320	4 .204	6 .162	6A .230	8A .199	8C .179	9 1/2 D .174	3 #12 .174
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Manufacturers:

Wolverine	ST 7	ST 8	ST 12	ST 13	ST 11	ST 12	ST 20	ST 20	ST 20
Bundy	VS 25	VS 2C	VS 5C	-----	VS 6A	VS 8A	VS 8A	VS 8A	VS 8A
Memco.	63	62	58	56	170	168	157	157	118
Penn Union	130	129	125	124	C126	C125	C125	C125	C125
Sherman	016	015	011	09	C012	C010	-----	W010	W010
Reliable	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size
Util. Service	99763	99765	99768	99769	99767	99768	99776	99776	99776
Line Material	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size	Order by description and size
Nat. Tel. Sup. Co.	170	169	158	156	433	431	438	440	449
Pekcu									

A.C.S.R.

Gauge Diam. (inches)	2/0 - 6/1 .447	0 - 6/1 .398	2 - 7/1 .325	2 - 6/1 .316	4 - 7/1 .257	4 - 6/1 .250	6 - 6/1 .198
Alum. Co. of Amer.	529	540	542	542	544	544	546

cy - Sleeve, splicing, compression type

Copper & Copperweld Copper:

Gauge	0x7	2x3	4	6	6A	8A	8C	9 $\frac{1}{2}$ D	3#12
Diam. (inches)	.368	.320	.204	.162	.230	.199	.179	.174	.174

Manufacturer:

Nat. Tel. Sup. Co.	--	1-258/3x	1-204-B	1-162J	1-6 A-F	1-8 A-F	1-3/081M	1-3/081M	1-3/081M
Kearney (ABC)	ML-1/0-1	ML-2-1	ML-4	ML-6	MLC-61	MLC-81	--	--	--

ACSR

Gauge	2/0 - 6/1	0 - 6/1	2 - 7/1	2 - 6/1	4 - 7/1	4 - 6/1	6 - 6/1
Diam. (inches)	.447	.398	.325	.316	.257	.250	.198

Manufacturer:

Nat. Tel. Sup. Co.

ORDER BY SIZE AND DESCRIPTION

Amerductor:

Gauge	4	6	8	8X	9X	10	12
Diam. (inches)	.310	.248	.196	.216	.192	.220	.175

Manufacturer:

Nat. Tel. Sup. Co.

2-8SC-F

2-12SC-F

Copperweld:

Gauge	4	6	8
Diam. (inches)	.297	.252	.207

Manufacturer:

Nat. Tel. Sup. Co. 5-238/3W 5-203/3S 5-165/3L

cz - Sleeve, splicing, double tube

Amerductor:

Gauge	4	6	8	8x	9x	10	12
Diam. (inches)	.310	.248	.196	.216	.192	.220	.175

Manufacturer:

McIntire	1059-A	1061-A	1064-A	1061-x	-	1060-A	1010-A
Nat. Tel. Sup. Co.	4004	4006	4008	4008x	-	4010	4012
Joslyn	4006*	4006*	4006*	-	-	-	-

* War Standard Item, acceptable for duration and ninety days thereafter.

Ruralductor:

Gauge	4	6	8
Diam. (inches)	.297	.252	.207

Manufacturer:

McIntire	SCP4	SCP6	SCP8
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41 - Street, Brighton, Sussex

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